**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (presently amended) An *in vitro* method which is a test involving a reaction of one or more biological molecules and which comprises:

labeling a biological molecule with hyperpolarized $^{129}Xe$, wherein said assay reagent comprises one of said one or more biological molecules:

conducting said reaction; and

observing a magnetic response resonance (NMR) spectrum and/or NMR image of the hyperpolarized $^{129}Xe$ ~~in the environment of the biological molecule, wherein the biological molecule is an assay reagent taking part in an assay method~~ during the course of said reaction.

2. Cancelled.

3. (presently amended) The method of claim ~~3~~1, wherein the assay is a competition assay or an immunoassay for following the progress of a reaction selected from the group consisting of receptor-ligand interactions, enzyme-substrate reactions and protein-protein interactions.

4. (presently amended) The method of claim ~~3~~1, wherein the assay is a hybridization assay or a binding assay for following the progress of a reaction selected from the

group consisting of immunoassays for specific analytes, nuclease assays, mutation analysis, mRNA detection and DNA detection.

5. (previously presented) The method of claim 1 wherein the biological molecule is a peptide or a protein.

6. (previously presented) The method of claim 1 wherein the hyperpolarized $^{129}Xe$ is enriched at a level of 40% or more.

7. (previously presented) The method of claim 1 wherein the degree of hyperpolarisation is 8% or more.

8. (previously presented) The method of claim 1 which is performed in a solution wherein the solvent has a viscosity in the range of 700 to 1500mPs.

9. (previously presented) The method of claim 1 wherein the pressure of the xenon gas is at least 5 bar.

10. (New) An *in vitro* assay method for following the progress of a reaction of one or more biological molecules and which comprises:

labeling an assay reagent with hyperpolarized $^{129}Xe$ , wherein said assay reagent comprises one of said one or more biological molecules;

conducting said reaction; and

observing a change with time of a magnetic response resonance (NMR) spectrum and/or NMR image of the hyperpolarized $^{129}Xe$ during the course of said reaction.